

Travis Zhang

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Education

Cornell University, College of Engineering

Bachelor of Science in Computer Science

GPA: 3.931/4.0

- **Relevant Courses:** Multivariable Calculus, Discrete Structures, OOP and Data Structures, Intro to ML, Functional Programming and Data Structures*, Differential Equations*, Linear Algebra*, Computing Tech in Smartphones*

Ithaca, New York

Sep 2020 – May 2024

Hamilton High School

GPA: 4.927/5.0

- **Relevant Courses:** Multivariable Calculus, Differential Equations, Linear Algebra, AP Java, AP Physics C: Mechanics and E & M
- **Honors:** Steve Sanghi Scholarship Award, Andy Grove Intel Scholarship, Impact Scholarship, National Honor Society Semifinalist Scholarship, Worth & Dot Howard Foundation Scholarship

Chandler, Arizona

July 2016 – May 2020

*: Current courses

Experience

ASU Robust Machine Learning Group

Student Researcher

- Applied transformation-invariant constraints on adversarial training using Tensorflow to improve robustness of Convolutional Neural Network (CNN)
- Implemented 3 algorithms to reduce time for loss to converge for proposed methodology (up to 60% reduction)
- Attacked a Deep Reinforcement Learning agent by designing a perturbed physical object in its environment using Pytorch

Tempe, Arizona

April 2019 – Present

ASU Signal, Information, Networks, and Energy Laboratory

Student Researcher

- Created program to temporally and spatially interpolate power outputs of solar panels using Scikit-learn, Pandas, and Numpy
- Analyzed patterns in cloud coverage and temperature to account for fluctuations in power output

Tempe, Arizona

Sep 2017 – April 2018

Activities

Cornell Data Science Project Team

Incoming Member for the Intelligent Systems Subteam

Ithaca, New York

Nov 2020 – Present

Associate of Computer Science Undergraduates

Academic Officer

- Helped organize and host academic events including Research Night and internship/research panels

Hamilton Robotics Team

Head of Electrical, Head of Communications

- Designed robot using Solidworks and used CNC router and mill to build precise parts
- Programmed autonomous, teleoperated, and vision code for robot using Java and FRC WPI Library

Chandler, Arizona

Aug 2016 – May 2020

Mathworks Math Modeling Challenge

Team Leader

- Developed and implemented mathematical models in Python to solve real-world problems
- Wrote a 15+ page research paper to report experimental designs and results

Chandler, Arizona

Jan 2019 – Feb 2020

Personal Projects

HackOurCampus Hackathon

- Designed iOS app using SwiftUI that reminded students to bring both COVID-related and personal items
- Implemented Geofencing technologies to encourage social distancing and track when to send out reminders

Aug 2020 – Sep 2020

National Honor Society App

- Developed both iOS (Swift) and Android (Java) mobile application
- Created personalized login system using student IDs and incorporated Google Firebase to send and retrieve information on app

July 2019 – Jan 2020

CUSD Equity Symposium App

- Produced iOS app for the Chandler school district's annual equity symposium
- Integrated Google Firebase to build a login system and to store symposium information in a database

Nov 2018 – May 2020

Skin Cancer Diagnosis using Neural Networks

- Built CNNs and Generative Adversarial Networks in Keras + Tensorflow to improve computer diagnosis of skin cancer

Aug 2018 – April 2019

Skills and Interests

Skills: Java, Python, Swift, C++, Keras, Pytorch, Tensorflow, Numpy, Pandas, Git/Github, HTML, CSS, LaTeX, Scikit-learn, Firebase

Miscellaneous Skills: Photoshop, Autodesk Inventor, Solidworks CAD, Welding, CNC Machine, Soldering, Milling

Interests: Photography, Tennis, Snowboarding, Adversarial Attacks in Machine Learning, Robotics, Airplanes